CH2M HILL
15010 Conference Center Drive
Suite 200
Chantilly, VA 20151
Tel 703.376.5000
Fax 703.376.5010

January 28, 2008

Mr. Joe Kostow
Abel Wolman Municipal Building
Department of Public Works
200 N. Holliday Street, Rm 204
Baltimore, MD 21202

Subject: Erosion and Sediment Control – Swann Park Remediation/Redevelopment

Dear Mr. Kostow:

On behalf of our Client, Honeywell International Inc. (Honeywell), CH2M HILL hereby submits the Swann Park Cleanup/redevelopment project for erosion and sediment control review and approval. Our submission is comprised of the following:

- Letter of Explanation, 2 copies
- Erosion and Sediment Control Plan (9 sheets), 2 copies
- Notice of Intent (NOI) Form (original copy mailed to MDE), 2 copies

The Erosion and Sediment Control Plan and NOI are being submitted for remedial action at Swann Park pursuant to the Maryland Department of the Environment (MDE) Order issued jointly to the City and Honeywell.

Additional submittals required for remedy construction include Critical Area and Stormwater Management that have been submitted by the City and their consultant in correspondence dated January 23, 2008.

Due to time constraints on returning the Site to public use, Honeywell respectfully requests that the City expedite the approval of the Erosion and Sediment Control Plan.

If you have any questions or require additional information, please contact me at 703-376-5223.

Sincerely,

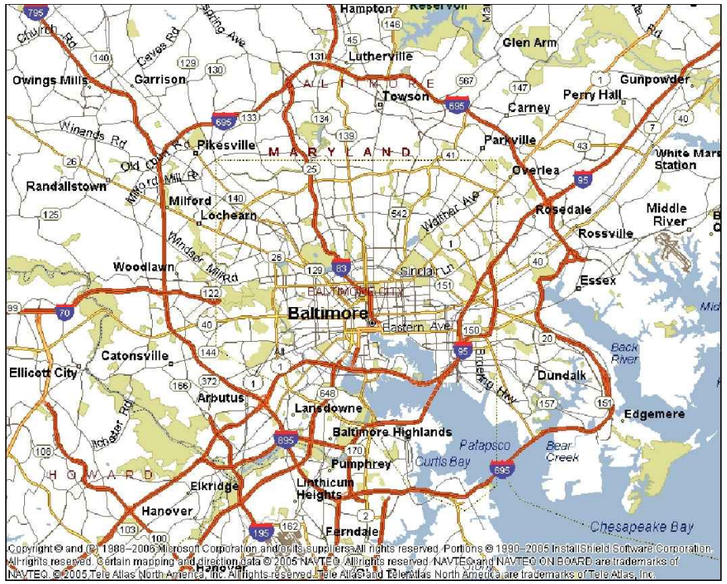
CH2M HILL

Martin A. Reif, P.E.
Project Coordinator

Enclosures

cc: Chris French (Honeywell)
Gennady Schwartz (City of Baltimore), w/o enclosure
Michael Daneker, Esq. (Arnold & Porter), w/o enclosure
Maggie Tindall, Esq. (GFRH&H), w/o enclosure
Mike Cook (City of Baltimore), w/o enclosure
Dawn Lettman (City of Baltimore), w/o enclosure
Bob Steele (CH2M HILL)

HONEYWELL INTERNATIONAL
SWANN PARK RESTORATION
BALTIMORE, MARYLAND



VICINITY MAP
NTS

N

DRAWING INDEX

LOCATION MAP
NTS

N

NO	DATE	DESCRIPTION	APVR
NO.	DATE	REVISION	BY
DSGN	S HUTSELL	DR D SCHAUER CHK E UNDERWOOD APVD	APVD M REIF

Honeywell

SWANN PARK
BALTIMORE, MARYLAND

HONEYWELL

CH2MHILL

CIVIL
COVER SHEET/INDEX/VICINITY AND LOCATION MAPS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	G-1
SHEET	

FILENAME: dn05G041_364267.dgn PLOT DATE: 1/25/2008 PLOT TIME: 5:17:14 PM

ABBREVIATIONS

APPROX	APPROXIMATE
AC	ACRE
BLDG	BUILDING
DIA	DIAMETER
FT	FEET
HDPE	HIGH DENSITY POLYETHYLENE
IN	INCHES
LB	POUND
LLDPE	LINEAR LOW DENSITY POLYETHYLENE
MAX	MAXIMUM
MD	MARYLAND
MDE	MARYLAND DEPARTMENT OF THE ENVIRONMENT
MIN	MINIMUM
N	NORTH
NTS	NOT TO SCALE
OC	ON CENTER
%	PERCENT
RCP	REINFORCED CONCRETE PIPE
SSF	SUPER SILT FENCE
SPECS	SPECIFICATIONS
STD	STANDARD
WCFM	WOOD CELLULOSE FIBER MULCH
WMA	WATER MANAGEMENT ADMINISTRATION
#	NUMBER, POUND

GENERAL NOTES

1. THIS SURVEY IS BASED ON A FIELD RUN TOPOGRAPHIC SURVEY BY PATTON HARRIS RUST AND ASSOCIATES IN MAY, 2007
2. THE BEARINGS SHOWN ON THIS SURVEY ARE BASED ON CONTINUOUS OPERATING GPS. BASE STATION HAVING A NATIONAL GEODETIC SURVEY P.I.D. NO. DH7956 IN THE MARYLAND COORDINATE SYSTEM NAD83. THE VERTICAL DATUM IS NAVD88 BASED ON SAME CONTROL POINT.
3. HORIZONTAL COORDINATES AND DIRECTIONS SHOWN HEREON ARE REFERRED TO BALTIMORE CITY SURVEY CONTROL STATIONS, NAD83, AS DETERMINED BY GPS OBSERVATION FROM THE FOLLOWING B.C.S.C.S. TRAVERSE STATIONS:

STA. #	NORTHING	EASTING	DESCRIPTION
29381	572160.252	1422303.360	PLUG
29821	577748.475	1420655.926	PLUG

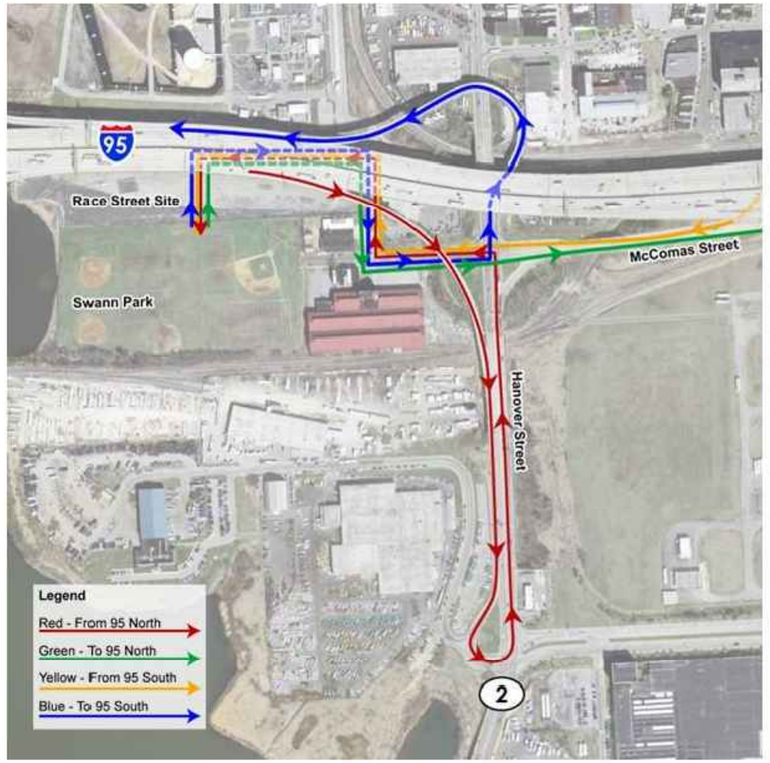
4. ELEVATIONS SHOWN HERON ARE REFERRED TO THE DATUM OF THE BALTIMORE CITY SURVEY CONTROL SYSTEM AS DETERMINED BY GPS OBSERVATIONS FROM THE FOLLOWING B.C.S.C.S. BENCH MARKS:

BM#	ELEVATION	DESCRIPTION
29381	14.201	PLUG IN CONC. WALK
29821	32.432	PLUG IN CONC. WALK

CIVIL LEGEND

EXISTING SYMBOL	EXISTING LEGEND	NEW SYMBOL	NEW LEGEND
10	EXISTING CONTOUR		WATER SURFACE ELEVATION(14.08)
	EXISTING TREE		LIMITS OF CLEARING
	EXISTING TREE/SHRUB LINE		AREA
	EXISTING WETLAND		ACCESS ROAD/WAY
	SHORELINE		TEMPORARY CULVERT
	SITE BOUNDARY		TEMPORARY SWALE
	CULVERT		

CONSTRUCTION TRAFFIC ROUTE



NUMBER INDICATES SECTION — D / C-8 — LETTER INDICATES DETAIL; SHEET NUMBER WHERE SECTION OR DETAIL IS DRAWN

DETAIL AND SECTION DESIGNATION

EROSION AND SEDIMENT CONTROL

MARYLAND APPLICABLE STANDARDS	ID	SYMBOL
STD 1.0 EARTH DIKE	A-1 A-2	A-1
STD 15.0 SILT FENCE	SF	SF
STD 16.0 STORM DRAIN INLET PROTECTION	SIP	SIP
STD 26.0 SUPER SILT FENCE	SSF	SSF
STD 17.0 STABILIZED CONSTRUCTION ENTRANCE	SCE	SCE
STD 8.0 STONE CHECK DAM	CD	CD
STD 23.0 TREE PROTECTION		
STD 9.0 SEDIMENT TRAP (TYPE IV)	ST	
STD 22.0 EROSION CONTROL MATTING		
LIMITS OF DISTURBANCE		
STD 14.0 DEWATERING SEDIMENT TANK		

NO	DATE	DSGN
		H LUSK

DESCRIPTION	DATE	DR	CHK	APVD
REVISION	H LUSK	H LUSK	E UNDERWOOD	M REIF

APVR	BY	APVD
N		

Honeywell

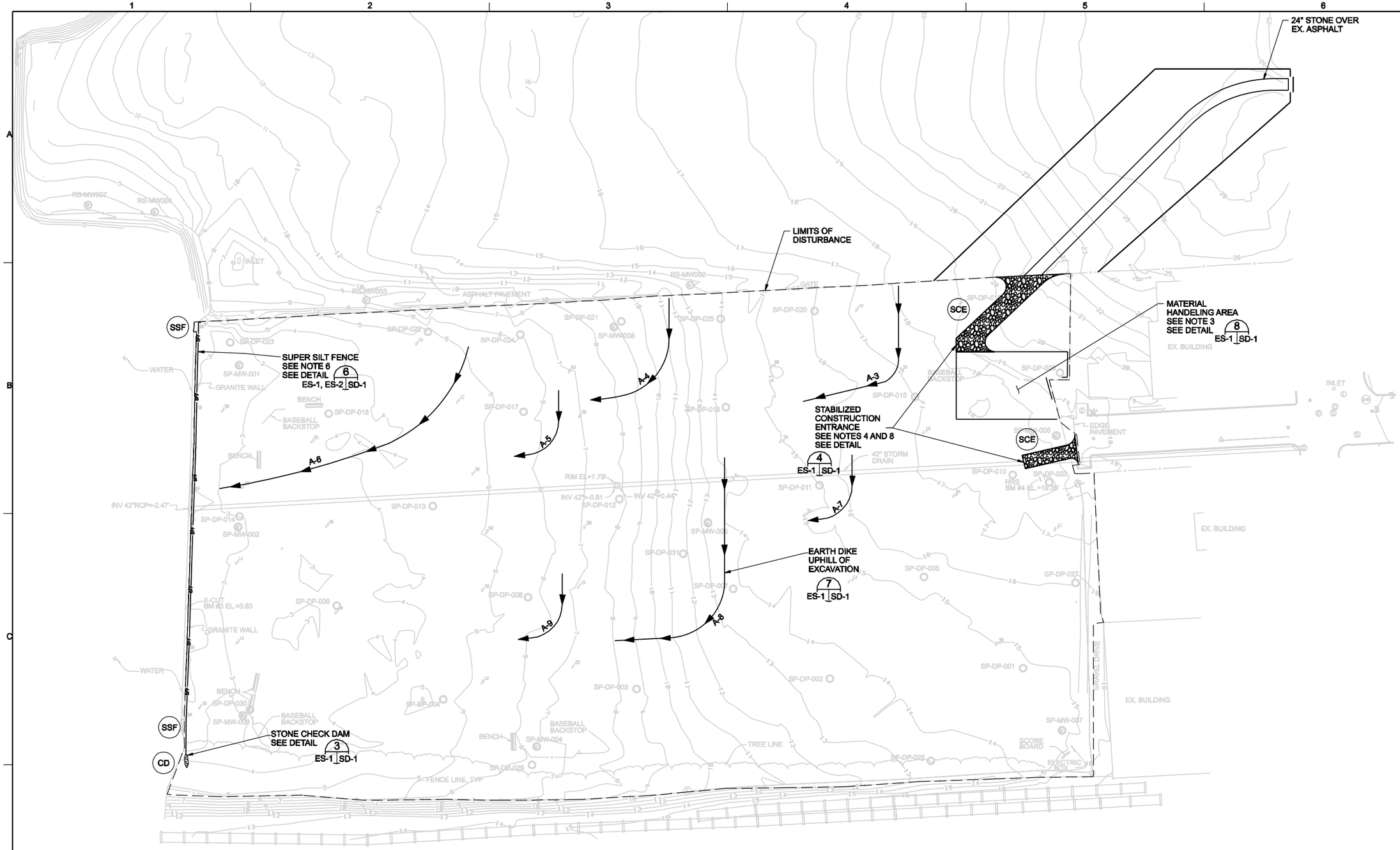
CH2MHILL

SWANN PARK
BALTIMORE, MARYLAND
HONEYWELL

GENERAL
ABBREVIATIONS, LEGEND AND GENERAL NOTES

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	G-2
SHEET	



NOTES:

1. THERE IS AN UNDERGROUND ELECTRIC LINE LOCATED ALONG THE EASTERN EDGE OF THE SITE. IT IS CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING SUBSURFACE UTILITIES ON SITE BEFORE THE COMMENCEMENT OF ANY WORK.

2. EXISTING TREES INSIDE THE EXISTING FENCE ARE TO BE REMOVED, WHILE TREES OUTSIDE THE FENCE ARE TO BE PRESERVED. IT IS RECOMMENDED TO PROVIDE ROOT PRUNING TREATEMENT FOR ROOTS OF PRESERVED TREES THAT EXTEND INTO THE SITE GRADING.

10 ES-1, ES-2 | SD-2

N

0 50 100 150

1"=50'

NO	DATE	DSGN
NO.	DATE	H LUSK

DESCRIPTION	APVR	N
REVISION	BY	APVD
	DR	H LUSK
	CHK	E UNDERWOOD
	APVD	M REIF

Honeywell

SWANN PARK
BALTIMORE, MARYLAND

HONEYWELL

CH2MHILL

CIVIL
INITIAL EROSION AND SEDIMENT CONTROL PLAN

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	ES-1
SHEET	

FILENAME: dt05c901_364267.dgn PLOT DATE: 1/25/2008 PLOT TIME: 5:07:37 PM

MAINTAIN
SUPER SILT FENCE
INSTALLED IN PHASE 1
SEE DETAIL 6 ES-1, ES-2 | SD-1

LIMITS OF DISTURBANCE

75' @ 1.5%, 12" HDPE

40' @ 1.7%, 18" CMP

40' @ 1.1%, 18" CMP

STANDARD INLET PROTECTION
SEE DETAIL ES-2 | SD-1

EX. BUILDING

NOTES:

1. APPLY TEMPORARY SEEDING AND/ OR EROSION CONTROL MATTING, ES-1, ES-2 | 10 SD-2 , TO STABILIZE TOP OF THE FINISHED SOIL CAP BEFORE THE PRE-FINAL INSPECTION.

2. COVER THE DISTURBED AREAS WITH EROSION CONTROL MATTING, ES-1, ES-2 | 10 SD-2 , PRIOR TO ANTICIPATED RAIN EVENT.

N

0 50 100 150
1"=50'

NO	DATE	DESCRIPTION	BY	APVD
NO.	DATE	REVISION	CHK	APVD
DSGN	H LUSK	DR H LUSK	E UNDERWOOD	M REIF

Honeywell

SWANN PARK
BALTIMORE, MARYLAND

HONEYWELL

CH2MHILL

CIVIL
FINAL EROSION AND
SEDIMENT CONTROL PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	ES-2
SHEET	

FILENAME: dt05c902_364267.dgn PLOT DATE: 1/25/2008 PLOT TIME: 5:09:29 PM

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE CONTRACTOR SHALL NOTIFY THE WATER MANAGEMENT ADMINISTRATION (WMA) (410) 631-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY WMA , SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN CONTRACTOR, A REPRESENTATIVE OF WMA.

2. THE CONTRACTOR MUST NOTIFY WMA IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:
   A. THE REQUIRED PRE-CONSTRUCTION MEETING.
   B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
   C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.
   D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.
   F. PRIOR TO FINAL ACCEPTANCE.

3. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY WMA INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE WMA. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE WMA OR ROICC INSPECTOR. THE CONTRACTOR MUST OBTAIN WMA AND ROICC APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION PRIOR TO IMPLEMENTATION OF CHANGES.

4. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.

5. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE WMA AND ROICC.

6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT FOR STABILIZATION MAY BE REDUCED TO THREE (3) DAYS FOR SENSITIVE AREAS).

7. THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH, OR APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT MAY BE REDUCED TO SEVEN (7) DAYS FOR SENSITIVE AREAS).

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NO LATER THAN FOURTEEN (14) CALENDAR DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.

9. THE SITE'S APPROVAL LETTER (IF APPLICABLE), APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY THE WMA.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING IS DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIPRAP OR BY OTHER APPROVED STABILIZATION MEASURES.

12. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF THE WMA WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE COVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFICIED FOR PERMANENT STABILIZATION. SLOPE GRADIENTS STEEPER THAN 2:1 WILL NOT PERMITTED WITH VEGETATIVE STABILIZATION.

14. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY FOUR (24) HOURS AFTER THE END OF A RAINFALL. DRAINAGE COURSES AND SWALE FLOW AREAS TO DRAIN MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.

15. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION THAT EXISTS OR IS UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.

16. WMA HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.

17. ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.

18. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING AND GROUND COVERS.

19. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO IT'S ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.

20. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR OR RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.

21. ALL WATER REMOVED FROM EXCAVATED AREAS (E.G. UTILITY TRENCHES) SHALL BE PASSED THROUGH AN APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE FROM THE SITE (I.E. VIA FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE).

22. SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNATED CONTROLS OR AS DIRECTED BY ENGINEER OR WMA INSPECTOR:
   A. CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK.
   B. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
   C. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY, UNLESS:
   D. TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWN STREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY,

23. WHERE DEEMED APPROPRIATE BY THE ENGINEER, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.

24. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY WMA AND OTHER APPLICABLE STATE, FEDERAL AND LOCAL AGENCIES. OTHERWISE, APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.

25. FOR SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.

26. WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPHALT BERMS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT GUTTER FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVERFLOW OF INLETS IN SUMP AREAS.

27. SITE INFORMATION:

TOTAL AREA OF FACILITY	10.8 ACRES
TOTAL AREA OF SITE	10.8 ACRES
AREA DISTURBED	10.8 ACRES
AREA TO BE ROOFED OR PAVED	1.1 ACRES
TOTAL CUT	16,410 CUBIC YARDS (EXCLUDE UTILITY TRENCHING)
TOTAL FILL	48,569 CUBIC YARDS (EXCLUDE UTILITY TRENCHING)
OFF-SITE WASTE/BORROW AREA LOCATION	TO BE APPROVED BY MDE

WARNING! EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED!!!

OWNER'S/DEVELOPER'S CERTIFICATION:

"I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT - APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT COMPLIANCE INSPECTORS."

DATE _____ AUTHORIZED SIGNATURE _____

CARD NO. _____ PRINTED NAME AND TITLE _____

ENGINEERS CERTIFICATION:

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT EROSION CONTROL AND SEDIMENT CONTROL REGULATIONS.

MARTIN REIF (PRINT NAME) — 15010 CONFERENCE CENTER DR CHANTILLY, VA 20151 (ADDRESS)

SIGNATURE _____ DATE _____ LICENSE NUMBER _____

SEQUENCE OF CONSTRUCTION

1. HOLD A PRE-CONSTRUCTION MEETING IN ACCORDANCE WITH NOTE 1 OF THE STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES.
2. MOBILIZE PERSONNEL AND EQUIPMENT.
3. PERFORM SITE PREPARATION, EXCLUDING LAND-DISTURBING ACTIVITIES.
4. INSTALL SUPER SILT FENCE AT THE DOWNHILL STONE WALL, STABILIZED CONSTRUCTION ENTRANCES, TEMPORARY HAUL ROAD, AND MATERIAL HANDLING AREA IN ACCORDANCE WITH THE INITIAL EROSION AND SEDIMENT CONTROL PLAN (SHEET ES-1). PERFORM ONLY LIMITED CLEARING AS NECESSARY FOR INSTALLATION. PROVIDE TREE PRESERVATION MEASURES, ACCORDING TO MARYLAND STANDARDS, AT THE SOUTH FENCE LINE, TO ENSURE THE SURVIVABILITY OF EXISTING TREES TO REMAIN.
5. PERFORM SITE EXCAVATION AND REMEDY OF CONTAMINATED AREAS IN ACCORDANCE WITH EXCAVATION PLAN (SHEET C-2) AND GRADING PLANS SHEETS C-3 AND C-5.
   A. EXCAVATE AND HAUL TO THE MATERIAL HANDLING AREA. ALL CONSTRUCTION VEHICLES SHALL FIRST STOP AT THE MATERIAL HANDLING AREA FOR PROPER TRUCK WASHES BEFORE EXITING THE SITE. THE EXCAVATED SOILS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH THE APPLICABLE LOCAL AND STATE REGULATIONS.
   B. COLLECT CONFIRMATION SAMPLES AT LOCATIONS SHOWN ON THE EXCAVATION PLAN (SHEET C-2.)
   C. BACKFILL THE EXCAVATED AREAS.
   D. CLEAR THE REMAINDER OF THE SITE. IT IS RECOMMENDED TO USE SAWS TO REMOVE TREES INSIDE THE FENCE INSTEAD OF UPROOTING WITH HEAVY EQUIPMENT. REGRADE THE SITE IN ACCORDANCE WITH THE BOTTOM SOIL CAP PLAN (SHEET C-3), I.E. 2 FEET BELOW FINAL GRADE.
6. INSTALL UNDERGROUND UTILITIES, INCLUDING ELECTRIC, WATER, SANITARY, AND STORM. INSTALL STORM DRAIN INLET PROTECTION. AS NEEDED, DEWATERING SHALL BE IN ACCORDANCE TO 1994 MARYLAND EROSION CONTROL STANDARDS SECTION D.
7. INSTALL 24 INCH THICK CLEAN SOIL COVER IN ACCORDANCE WITH THE FINAL GRADING PLAN (SHEET C-5). APPLY TEMPORARY / PERMANENT SEEDING, OR SOD, OR EROSION CONTROL MATTING AS NECESSARY TO STABILIZE THE TOP OF THE SOIL CAP, ESPECIALLY ALONG SWALES.
8. HOLD A PRE-FINAL INSPECTION, TO BE ATTENDED BY THE CONTRACTOR, AND REPRESENTATIVES OF WMA, THE OWNER AND THE ENGINEER. THE OBJECTIVE OF THE MEETING IS TO DETERMINE EROSION AND CONTROL PUNCH LIST ITEMS AND DEVELOP A TIMETABLE FOR THE REMOVAL OF EROSION CONTROL MEASURES.
9. REMOVE MATERIAL HANDLING AREA, TEMPORARY HAUL ROAD, STABILIZED CONSTRUCTION ENTRANCES, SEDIMENT TRAP, STONE CHECK DAMS. APPLY PERMANENT SEEDING TO DISTURBED AREAS IMMEDIATELY AFTER REMOVAL (SAME DAY).
10. DEMOBILIZE PERSONNEL AND EQUIPMENT.
12. REMOVE REMAINING EROSION AND SEDIMENT CONTROLS FROM SITE WITH APPROVAL FROM MDE INSPECTOR.

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOURTEEN (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

EROSION CONTROL INSPECTION AND MAINTENANCE:

1. STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE ADDING STONE OR OTHER REPAIRS AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY BY VACUUM SWEEPING, SCRAPING, OR SWEEPING. DAILY MAINTENANCE AND INSPECTION IS REQUIRED.
2. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 50% OF THE FABRIC HEIGHT.
3. EARTH DIKES, INLET PROTECTIONS, CHECK DAMS, AND MATERIAL HANDLING AREA SHALL BE INSPECTED PERIODICALLY AND AFTER EACH RAIN EVENT. MAINTENANCE SHALL BE PERFORMED, AS NEEDED, TO ENSURE THAT CONTROLS ARE IN COMPLIANCE WITH MDE STANDARDS.

NO	DATE	DSGN	DESCRIPTION	DR	CHK	APVD
NO.	DATE	H LUSK	REVISION	H LUSK	E UNDERWOOD	M REIF
					BY	APVD
					APVR	N

Honeywell

SWANN PARK
BALTIMORE, MARYLAND
HONEYWELL

CH2MHILL

GENERAL
EROSION AND SEDIMENT CONTROL
NOTES

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	ES-3
SHEET	

FILENAME: dn05G043_364267.dgn PLOT DATE: 1/25/2008 PLOT TIME: 5:21:16 PM

REFER TO CITY OF BALTIMORE SPECIFICATIONS 02936 SEEDING AND 02938 SODDING. IF THERE IS A CONFLICT BETWEEN THE CITY SPECIFICATIONS AND THE GENERAL STATE OF MARYLAND STANDARDS COPIED ON THIS SHEET, THE CITY SPECIFICATIONS SHALL PREVAIL. FOR SEED MIX FOR THE GRASS SWALE BMPs, REFER TO STORMWATER MANAGEMENT PLAN SHEET 6 BY RKK.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. SITE PREPARATION

I. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.

II. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.

III. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.

B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

I. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.

II. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING, AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL BE DELIVERED TO THE SITE, FULLY LABELED ACCORDING TO APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME OR TRADEMARK, AND WARRANTY OF THE PRODUCER.

III. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE, AND 98 TO 100% WILL PASS THROUGH A #20 MESH SIEVE.

IV. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 – 5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

C. SEEDBED PREPARATION

I. TEMPORARY SEEDING

a. SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3 INCHES TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS, CHISEL PLOWS, OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

II. PERMANENT SEEDING

a. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:

1. SOIL pH SHALL BE BETWEEN 6.0 AND 7.0.

2. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).

3. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY, BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERECIA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.

4. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.

5. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

6. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 "STANDARD AND SPECIFICATION FOR TOPSOIL" OF THE 1994 MD STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.

b. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.

c. APPLY SOIL AMENDMENTS AS PER SOIL TEST OR AS INCLUDED IN THE CONTRACT DOCUMENTS.

d. MIX SOIL AMENDMENTS INTO THE TOP 3 – 5 INCHES OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE; REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1 –3 INCHES OF SOIL SHOULD BE LOOSE AND FRIABLE. SEEDBED LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.

D. SEED SPECIFICATIONS

I. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB.

NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.

II. INOCULANT – THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 – 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE INOCULANT LESS EFFECTIVE.

E. METHODS OF SEEDING

I. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER), BROADCAST OR DROP SEEDER, OR A CULTIPACKER SEEDER.

a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING:
NITROGEN – MAXIMUM OF 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS): 200 POUNDS/ACRE; K2O (POTASSIUM): 200 POUNDS/ACRE.

b. LIME – USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

c. SEED AND FERTILIZER SHALL BE MIXED ON SITE, AND SEEDING SHALL BE DONE IMMEDIATELY WITHOUT INTERRUPTION.

II. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

a. SEED SPREAD SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES. THE SEEDED AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

III. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

a. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

b. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)

I. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLY BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY, AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.

WOOD CELLULOSE FIBER MULCH (WCFM)

II.

a. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

b. WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

c. WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

d. WCFM SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER, AND OTHER ADDITIVES TO FORM A HOMOGENOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDINGS.

e. WCFM SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

f. WOOD CELLULOSE FIBER MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM., DIAMETER APPROXIMATELY 1 MM., pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM, AND WATER HOLDING CAPACITY OF 90% MINIMUM.

NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE A STAND OF ONE SPECIES OF GRASS IS DESIRED.

G. MULCHING SEEDED AREAS – MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

i. IF GRADING IS COMPLETED OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AND PRESCRIBED IN THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS, AND SEEDING CAN BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.

ii. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN 1 AND TWO INCHES. MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE.

iii. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

H. SECURING STRAW MULCH (MULCH ANCHORING): MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON SIZE OF AREA AND EROSION HAZARD.

I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS IS THE MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTERSLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR, IF POSSIBLE.

II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LBS./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

III. APPLICATIONS OF LIQUID BINDERS SHOULD BE APPLIED HEAVIER AT EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. THE REMAINDER OF AREA SHOULD BE UNIFORM AFTER BINDER APPLICATION. SYNTHETIC BINDERS – SYNTHETIC BINDERS SUCH AS ACRYLIC DRL (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR, OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH.

IV. LIGHTWEIGHT: PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

SECTION II - TEMPORARY SEEDING

TEMPORARY SEEDING SUMMARY						
SEEDMIXTURE (FOR HARDNESS ZONE 7A) FROM TABLE 26					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb./ac)	SEEDING DATES	SEEDING DEPTHS		
1	ANNUAL RYEGRASS	50	2/1 – 4/30 8/15 – 11/1	6–12 (1/4"–1/2")		
2	MSHA TEMP SEED MIX	150	2/1 – 10/15	25 (1")	600 lb/ac (15 lb/1000 sf)	2 tons/ac (100 lb/1000 sf)

SECTION III - PERMANENT SEEDING

PERMANENT SEEDING SUMMARY								
SEED MIXTURE (CITY OF BALTIMORE SPEC 02936)					FERTILIZER RATE (10-20-20)			LIME RATE
% BY WT.	TYPE OF GRASS	MIN. % GERMINATION	WEED SEED-NOT MORE THAN %					
80%	TURF TYPE TALL FESCUE (3 REBEL VARIETIES)	90%	0.05%		90 lb/ac (2.0 lb/ 100 sf)	175 lb/ac (2.0 lb/ 100sf)	175 lb/ac (2.0 lb/ 100sf)	2 tons/ac (100 lb/ 1000 sf)
10%	PALMER III PERENNIAL RYEGRASS	85%	0.05%					
10%	GOLD RUSH KENTUCKY BLUEGRASS	80%	0.04%					

SECTION IV SOD - TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER)

A. GENERAL SPECIFICATIONS

I. CLASS OF TURFGRASS SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

II. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4", PLUS OR MINUS 1/4", AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIER'S WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

III. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

IV. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

V. SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 24 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

B. SOD INSTALLATION

I. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, THE SUBSOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.

II. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

III. WHEREVER POSSIBLE, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. SOD SHALL BE ROLLED AND TAMPED, PEGGED, OR OTHERWISE SECURED TO PREVENT SLIPPAGE ON SLOPES AND TO ENSURE SOLID CONTACT BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

IV. SOD SHALL BE WATERED IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING, AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

C. SOD MAINTENANCE

I. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT WILTING.

II. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

III. THE FIRST MOWING OF SOD SHOULD NOT BE ATTEMPTED UNTIL THE FINAL SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2" AND 3", UNLESS OTHERWISE SPECIFIED.

SECTION V - TURFGRASS ESTABLISHMENT

AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. AREAS TO RECEIVE SEED SHALL BE TILLED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVELED, AND RAKED TO PREPARE A PROPER SEEDBED. STONES AND DEBRIS OVER 1-1/2 INCHES IN DIAMETER SHALL BE REMOVED. THE RESULTING SEEDBED SHALL BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. NOTE: CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

A. TURFGRASS MIXTURES

I. KENTUCKY BLUEGRASS – FULL SUN MIXTURE – FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND THE EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS/1000 SQUARE FEET. A MINIMUM OF THREE BLUEGRASS CULTIVARS SHOULD BE CHOSEN, RANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF THE MIXTURE BY WEIGHT.

II. KENTUCKY BLUEGRASS/PERENNIAL RYE – FULL SUN MIXTURE – FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN, WITH EACH CULTIVAR RANGING FROM 10% TO 35% OF THE MIXTURE BY WEIGHT.

III. TALL FESCUE/KENTUCKY BLUEGRASS – FULL SUN MIXTURE – FOR USE IN DROUGHT PRIME AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95% – 100%; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 – 5%. SEEDING RATE: 5 TO 8 POUNDS/1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

IV. KENTUCKY BLUEGRASS/FINE FESCUE – SHADE MIXTURE – FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30–40% AND CERTIFIED FINE FESCUE AND 60 – 75%. SEEDING RATE: 1–1/2 TO 3 POUNDS/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN, WITH EACH CULTIVAR RANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF THE MIXTURE BY WEIGHT.

NOTE: TURFGRASS VARIETIES SHOULD BE SELECTED FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MIMEO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND."

B. IDEAL TIMES OF SEEDING WESTERN MARYLAND:

MARCH 15 – JUNE 1; AUGUST 1 – OCTOBER 1 (HARDINESS ZONES – 5b, 6a)

CENTRAL MARYLAND: MARCH 1 – MAY 15; AUGUST 15 – OCTOBER 15 (HARDINESS ZONES – 6b)

SOUTHERN MARYLAND, EASTERN SHORE: MARCH 1 – MAY 15, AUGUST 15 – OCTOBER 15 (HARDINESS ZONES – 7a, 7b)

C. IRRIGATION

IF SOIL MIXTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2" – 1" EVERY 3 TO 4 DAYS, DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASON, OR ON ADVERSE SITES.

D. REPAIRS AND MAINTENANCE

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

I. ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 75% GROUNDCOVER TO BE CONSIDERED ADEQUATELY STABILIZED.

II. IF THE STAND PROVIDES LESS THAN 40% GROUND COVERAGE, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING RECOMMENDATIONS.

III. IF THE STAND PROVIDES BETWEEN 40% AND 94% GROUND COVERAGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

IV. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDINGS ARE SHOWN IN TABLE 24. FOR LAWNS AND OTHER MEDIUM TO HIGH MAINTENANCE TURFGRASS AREAS, REFER TO THE UNIVERSITY OF MARYLAND PUBLICATION, "LAWN CARE IN MARYLAND", BULLETIN NO. 171.

NO	DATE	DESIGN	DRAWN	CHECKED	APVD	APVR	APVD
NO.	DATE	H LUSK	DR	CHK	E UNDERWOOD	BY	M REIF

DESCRIPTION
REVISION

Honeywell

SWANN PARK
BALTIMORE, MARYLAND

HONEYWELL

CH2MHILL

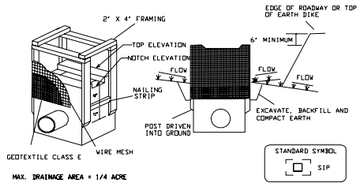
CIVIL

LANDSCAPING SEEDING NARRATIVE AND EROSION AND SEDIMENT CONTROL TABLES

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	ES-4
SHEET	

DETAIL 23A - STANDARD INLET PROTECTION



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

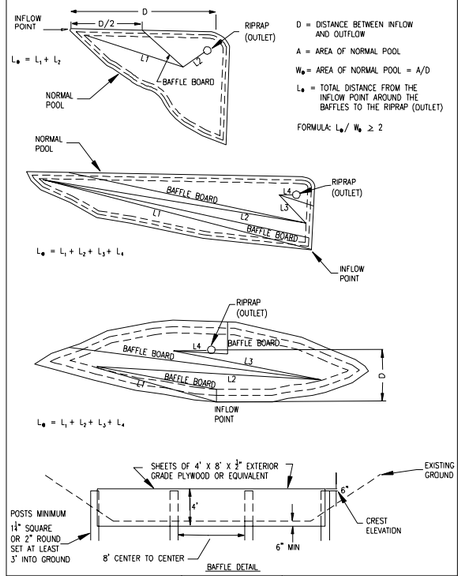
7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STANDARD INLET PROTECTION
NTS

1 | ES-2 | SD-1

DETAIL 18 - SEDIMENT TRAP BAFFLES



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of Filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

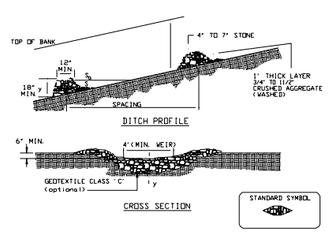
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 28	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEDIMENT TRAP BAFFLES
NTS

2 | ES-1 | SD-1

DETAIL 7 - STONE CHECK DAM



STANDARD STONE CHECK DAM DESIGN

SLOPE	SPACING
2% or less	80'
2 % to 4%	40'
4 % to 7%	25'
7 % to 10%	15'
over 10%	use lined waterway design

Construction Specifications

1. Seales and ditches shall be prepared in accordance with the construction specifications described in Section A-2, Standards and Specifications For Temporary Seale.

2. The check dam shall be constructed of 4"-7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.

3. The top of the check dan shall be constructed so the the center is approximately 6" lower than the outer edges, forning a weir that water can flow across.

4. The maxinum height of the check dan at the center shall not exced 2'.

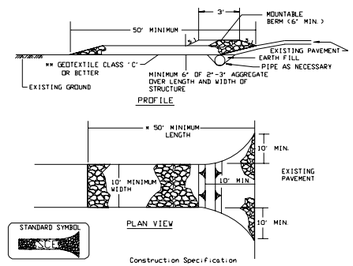
5. The upstream sideof the check dan shall be lined with approximately 1" of 2/4" to 11/2" crushed aggregate.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 8 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STONE CHECK DAM
NTS

3 | ES-1 | SD-1

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. *The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclained or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

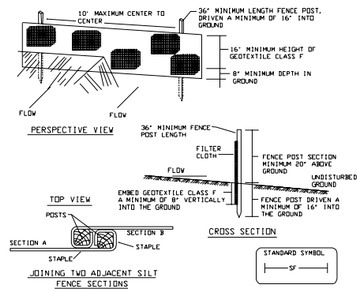
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STABILIZED CONSTRUCTION ENTRANCE
NTS

4 | ES-1 | SD-1

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

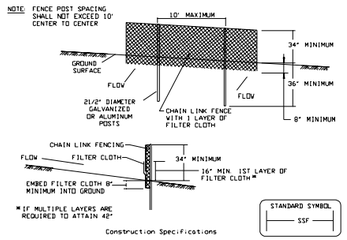
4. Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE
NTS

5 | ES-1 | SD-1

DETAIL 33 - SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of Filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

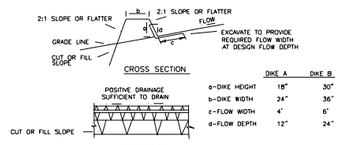
SLOPE	SLOPE LENGTH
0-10%	UNLIMITED

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SUPER SILT FENCE
NTS

6 | ES-1, ES-2 | SD-1

DETAIL 1 - EARTH DIKE



1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

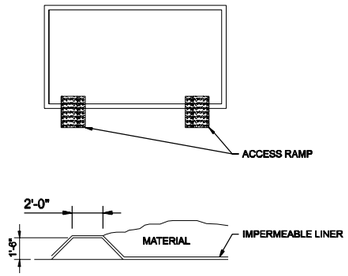
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EARTH DIKE
NTS

7 | ES-1, ES-2 | SD-1

MATERIAL HANDELING AREA



NOTES:

1. SIZE AND SHAPE OF MATERIAL HANDLING AREA TO BE DETERMINED DURING SITE SETUP.
2. ACCESS RAMPS WILL BE A MINIMUM OF 10 FT WIDE WITH NUMBER 57 STONE UNDERLINED WITH 6 IN LAYER OF NUMBER 1 STONE. LINER WILL CONTINUE TO THE EDGE OF THE ACCESS RAMP.
3. IMPERMEABLE LINER WILL CONSIST OF 40 MIL LLDPE LINER OVERLAIN WITH GEOCOMPOSITE DRAINAGE LAYER (TENAX TDP 1 OR EQUIVALENT).
4. MATERIAL HANDLING SHALL BE INSTALLED ON SLOPE TO ALLOW FOR COLLECTION OF TRUCK WASH LIQUIDS. ACCUMULATED WATER SHALL BE PUMPED INTO A 500 GALLON TANK AS NECESSARY FOR OFF-SITE DISPOSAL.

MATERIAL HANDELING AREA
NTS

8 | ES-1 | SD-1

NO	DATE	DESCRIPTION	DR	CHK	APVD
NO.	DATE	REVISION	H LUSK	E UNDERWOOD	APVD
DSGN		H LUSK			

BY	APVR	N
M REIF		

Honeywell

SWANN PARK
BALTIMORE, MARYLAND

HONEYWELL

CH2MHILL

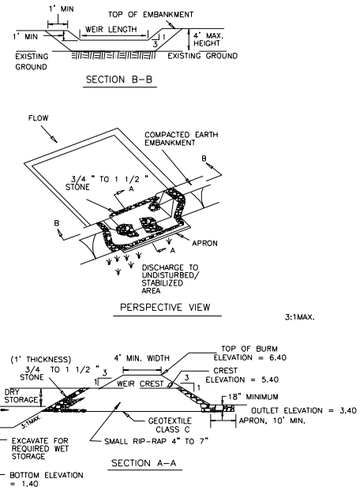
CIVIL
EROSION AND SEDIMENT CONTROL DETAILS - 1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	SD-1
SHEET	

FILENAME: dt05c903_364267.dgn PLOT DATE: 1/25/2008 PLOT TIME: 5:10:36 PM

DETAIL 10A - STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 16	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STONE RIP-RAP OUTLET SEDIMENT TRAP - ST IV

Constuction Specifications

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 9).

6. Geotextile Class C shall be placed over the bottom and sides of the outlet channelprior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. 4" – 7" stone shall be used to construct the weir and 4" – 12" or Class I rip-rap shall be used to construct the outlet channel.

8. Outlet – An outlet shall include a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge point shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 of the wet storage depth of the trap (900 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired as needed.

12. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 16A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

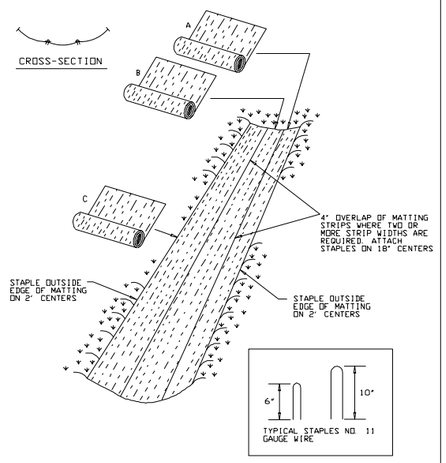
RIP-RAP OUTLET SEDIMENT TRAP - ST IV

NTS

9

ES-1 | SD-2

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".

2. Staple the 4" overlap in the channel center using an 18" spacing between staples.

3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.

5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4', shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

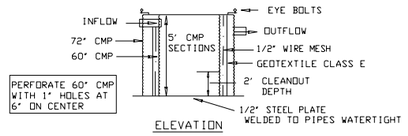
EROSION CONTROL MATTING

NTS

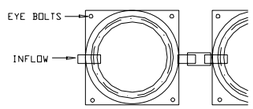
10

ES-1, ES-2 | SD-2

DETAIL 21 - PORTABLE SEDIMENT TANK



ELEVATION



PLAN VIEW

STANDARD SYMBOL

☒ PST

Construction Specifications

1. The following formula should be used in determining the storage volume of the sediment tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity.

2. An example of a typical sediment tank is shown above. Other container designs can be used if the storage volume is adequate and approval is obtained from the local approving agency.

3. Tanks may be connected in series.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 14 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NO	DATE	DESCRIPTION	DR	CHK	APVD	APVR	N
NO.	DATE	REVISION	H LUSK	E UNDERWOOD	APVD	BY	M REIF
DSGN	H LUSK						

Honeywell

SWANN PARK
BALTIMORE, MARYLAND

HONEYWELL

CH2MHILL

CIVIL

EROSION AND SEDIMENT CONTROL DETIALS - 2

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	SD-2
SHEET	

FILENAME: dt05c904_364267.dgn PLOT DATE: 1/25/2008 PLOT TIME: 5:11:41 PM

RACE STREET SITE

RACE STREET

MIDDLE BRANCH
PATAPSCO RIVER

W. McCOMAS STREET

PROPOSED RESTROOM

PROPOSED SANITARY SEWER

SAN

PROPOSED WATERMAIN

PROPOSED STORM DRAIN

PROPOSED 42" STORM DRAIN

PROPOSED CULVERT (TYP)

SEE DETAIL . . ., TYP

RS-MW007

RS-MW004

RS-MW003

RS-MW002

ASPHALT PAVEMENT

GATE

INLET

WATER

EDGE PAVEMENT

EX. BUILDING

INV 42"RCP=-2.47'

TG 9.10
TG 15.75
TG 8.12
TG 9.25
TG 4.78
TG 16.93
TG 7.80
TG 5.00
TG 5.40
TG 8.00

LEGEND

- EXISTING CONTOUR
- EXISTING TREE LINE
- EXISTING FENCE LINE
- SP-DP-001 SAMPLING LOCATIONS
- PROPOSED FINAL CONTOURS
- PROPOSED INLET
- PROPOSED LIGHTING STANCHIONS
- PROPOSED HYDRANT
- PROPOSED WATER MAIN

NOTES:
1. PROPOSED LOCATION OF UTILITIES IS AS PROVIDED BY RUMMEL, KLEPPER & KAHL, LLP, DRAWING C-3 1/17/08

N

0 50 100 150
1"=50'

NO	DATE	DESCRIPTION	APVR
NO.	DATE	REVISION	BY
DSGN	S HUTSELL	DR D SCHAUER	CHK E UNDERWOOD

APVD M REIF

Honeywell

CH2MHILL

SWANN PARK
BALTIMORE, MARYLAND

HONEYWELL

CIVIL
PROPOSED UTILITY PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2008
PROJ	364267
DWG	C-6
SHEET	

FILENAME: dn05c105_364267.dgn PLOT DATE: 1/25/2008 PLOT TIME: 4:53:19 PM

NOTICE OF INTENT
to Comply With the General Permit for Construction Activity for Stormwater Discharges
FOR PRIVATE AND LOCAL/MUNICIPAL PROJECTS ONLY

Maryland Department of the Environment
P.O. Box 2057
Baltimore, MD 21203-2057
(410) 537-3510

BACKGROUND INFORMATION

The United States Environmental Protection Agency (EPA) has developed the National Pollutant Discharge Elimination System (NPDES) stormwater program to control pollutants entering the nation's surface waters from many industrial activities. EPA has authorized the Maryland Department of the Environment (MDE) to implement the NPDES stormwater program in Maryland. MDE has developed a General Permit intended to cover stormwater discharges from construction activity. This Notice of Intent (NOI) is an application form, designed to notify MDE of the permittee's intent to be covered by the General Permit for Construction Activity. This NOI form must be completed and submitted to MDE for any construction activity that results in an earth disturbance of one acre or more. However, if a single owner/developer is engaged in a multiple phase construction project having a planned total disturbance of one acre or more, an NOI is required for General Permit coverage, even if the phase will disturb less than one acre.

GENERAL INSTRUCTIONS

- Do not bend or fold the Notice of Intent form.
- Use a No. 2 pencil to fill appropriate ovals under each item.
- Sign and date the completed NOI form in ink.
- Please retain a copy of the completed NOI for your records.
- Mail signed form to: MDE, P.O. Box 2057, Baltimore, MD, 21203-2057.
- Additional information regarding the completion of this form can be obtained from local plan review offices or by calling MDE at (410) 537-3510.
- MDE will verify receipt of the NOI by sending the permittee or principal contact a letter, a copy of the General Permit and a receipt card.
- This NOI form does not relieve the permittee of his/her responsibility under current Maryland law regarding erosion and sediment control and stormwater management plan approvals. Appropriate plan approvals must still be obtained.
- State and Local government projects are exempt from the application fee.
- Enclose a check or money order made payable to MDE for amount corresponding to the acreage listed below on the fee schedule.

FEE SCHEDULE FOR PRIVATE PROJECTS		
	1 to less than 10 acres	$ 100
	10 to less than 15 acres	$ 500
	15 to less than 20 acres	$ 1,500
	20 acres and up	$ 2,500

1

SITE LOCATION: Be as specific as possible; be sure to include city/town and zip.

SWANN PARK
201 WEST MCCOMAS STREET
BALTIMORE MD 21230
WARD 23 SECTION 1D
BLOCK 1049 LOT 1
ZONING M-3

COUNTY: Indicate county/city where project is located.

- ○ Allegany
- ○ Anne Arundel
- ○ Baltimore
- ● Baltimore City
- ○ Calvert
- ○ Caroline
- ○ Carroll
- ○ Cecil
- ○ Charles
- ○ Dorchester
- ○ Frederick
- ○ Garrett
- ○ Harford
- ○ Howard
- ○ Kent
- ○ Montgomery
- ○ Prince George's
- ○ Queen Anne's
- ○ St. Mary's
- ○ Somerset
- ○ Talbot
- ○ Washington
- ○ Wicomico
- ○ Worcester

SITE NAME

SWANN PARK

PHASE (if applicable)

34802

MDE 311 (3/03) Mark Reflex® forms by NCS Pearson EM-181862-3:654321 PR08 Printed in U.S.A.

MD GRID COORDINATES

Use the approximate center of the site. This information may be found on site plans, ADC county maps, or by contacting MDE. Coordinates are based on 1927 origin.

5724 | 9108

LATITUDE AND LONGITUDE

Refer to ADC county maps. Round to the nearest 15 seconds.

Latitude	Longitude
70 37 00	39 15 45

WATERSHED BASIN CODE

Six digit number that indicates the site's watershed. This information may be obtained at local plan review offices or MDE.

Watershed Basin Code: 02 13 09

PERMANENT STORMWATER MANAGEMENT FACILITIES (BMPs)

Use the left hand column to indicate how many of each type of permanent SWM facility will be implemented. Indicate the total drainage area for these facilities in the remaining columns. Example: if two extended detention ponds are installed, each draining 10 acres, indicate the number of ponds (2) in the left-hand column, and the total drainage area for that type of facility (20.0 acres).

- ( ) SWM Waived
- ( ) SWM Exempt

INFILTRATION TRENCHES	INFILTRATION BASINS	OFFSITE SWM FACILITY
0	0	0

EXTENDED DETENTION PONDS	DETENTION PONDS	EXTENDED DETENTION POND - WET	EXTENDED DETENTION POND - DRY
0	0	0	0

VEGETATED SWALES	WETLAND/ SHALLOW MARSHES	OIL/GRIT SEPARATORS	DRYWELLS
2 61	0	0	0

BRIEFLY DESCRIBE PROJECT

(include existing and proposed land uses)

CLEANUP OF ARSENIC CONTAMINATED SOIL IN THE FORM OF A SOIL COVER AND RECREATIONAL IMPROVEMENTS INCLUDING SOFTBALL BASEBALL AND FOOTBALL FIELDS PATHS RESTROOMS AND AMENITIES

OTHER NPDES NUMBER

If this project/site has an NPDES number for a discharge other than for stormwater from construction, please indicate that number below.

RUNOFF CURVE NUMBER

PRE	POST
74	76

ESTIMATE OF IMPERVIOUS SURFACE AREA

(Post development in acres; includes rooftops, parking lots, etc.)

1.1

TOTAL SITE AREA (to the tenth)	TOTAL DISTURBED AREA (to tenth)
10.8	10.8

THE RUNOFF FROM THIS SITE GOES TO:

(mark one and describe)

- ( ) a municipal separate storm sewer system. Give name of that system and its receiving waters:
- (●) surface waters. Give name of receiving waters (use the closest named waterway):

MIDDLE BRANCH PATAPSCO RIVER

Indicate the appropriate SIC number that best represents the eventual use of the facility under construction. For residential and commercial facilities (i.e., non-industrial), use the appropriate construction SIC number. SIC information may be obtained at local plan review offices, public libraries, or by contacting MDE.

STANDARD INDUSTRIAL CLASSIFICATION

(SIC code): 1542

THIS PROJECT IS

(choose one)

- (●) County/Municipal
- ( ) Private

PROJECT TYPE

- ( ) Residential
- ( ) Commercial
- ( ) Industrial
- (●) Other (describe): PARK

II

Give name of individual or company applying for permit coverage (fill in the appropriate oval indicating whether individual or company).

The permittee will be responsible for complying with the General Permit, unless and until he or she officially transfers or terminates this authority. Refer to the General Permit for specifics.

PERMITTEE IS:
- ○ Individual
- ○ Company
- ○ Mr.
- ○ Ms.

FEDERAL TAX ID #: 30-000559

PERMITTEE NAME
Example: John Smith or XYZ Company

BALTIMORE CITY DEPT REC PARKS

PERMITTEE STREET ADDRESS
Street Number and Name (Use standard abbreviations where possible)

2600 MADISON AVENUE

TOWN/CITY	STATE	ZIP CODE + 4
BALTIMORE	MD	21217

PHONE NUMBER OF PRINCIPAL CONTACT

Area Code	Number
410	3967948

PRINCIPAL CONTACT

Mr. / Ms.	Last Name	First Name
	SCHWARTZ	GENNADY

34802

IV

Please read the certification statement below and sign and date.

I certify under penalty of law that this document was completed under my supervision and that the information contained herein is accurate and truthful to the best of my knowledge. I understand that I will be held accountable under the terms specified in the General Permit unless and until I officially transfer or terminate permit authority as outlined in the General Permit.

GENNADY SCHWARTZ

Print Name

Signature of Submittee

1-28-08

Date

V

A one-time application fee based on site disturbance is required with the initial submission of the NOI form. Use the fee schedule below to determine check or money order amount. If multiple NOIs are received by stages or phases of the same project, the Department will require that the fee included with those NOIs be equal to the fee which would be paid if a single NOI were submitted for the total project. Coverage under the general permit will be denied if the correct fee is not provided. State and local municipal projects are exempt.

FEE SCHEDULE

1 up to less than 10 acres	$ 150
10 to less than 15 acres	$ 500
15 to less than 20 acres	$ 1,000
20 acres and up	$ 1500

AMOUNT ENCLOSED

$ 0

To speed timely processing of your NOI, please answer the following questions:

Is this a revised NOI form? Yes ● No

If yes, please indicate previously assigned number here:

Is this a phased project? Yes ● No

If yes, and a phase of this project has been completed, please indicate the following: assigned number and acreage previously used here:

State project name:

Site assigned number:

Previously paid amount: $ 0